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ABSTRACT

Leslie Herrenkohl's work in science (1998) has demonstrated that introducing "problem-solving steps" and "audience roles" to an elementary classroom can have a dramatic impact on rates of student engagement as measured through classroom talk. It is not known to what extent the success of the intervention was due to its placement within the discipline of science. This study asks whether the adaptation of the steps and audience roles to civics, a more loosely structured discipline, would produce similar results, and what issues and possibilities arise when this participant structure is introduced to real elementary civics classrooms. Two cases were examined and compared. Problem-solving steps and audience roles appropriate to civics were introduced to two fourth grade suburban classrooms located between Seattle, Washington, and Tacoma, Washington. Classroom talk before, during, and after the introduction of the steps and audience roles was gathered during 12 class sessions using audio and video recorders. Interviews of teachers and selected students were conducted. Data were analyzed qualitatively to ascertain the degree to which teachers and students engaged in substantive talk (particularly during small group reporting episodes) and the impact of civics problems on the talk of the students. Students in both classrooms demonstrated high levels of substantive engagement (defined as students seeking understanding, challenging one another, and seeking agreement). Engaging with civics problems, however, was difficult for students. Of particular concern was the lack of definition of civics problems and the inability within civics to confirm the veracity of proposed solutions. (Contains 2 figures and 37 references.) (BT)

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Running Head: USING PROBLEM-SOLVING STEPS AND AUDIENCE ROLES TO INCREASE STUDENT ENGAGEMENT IN ELEMENTARY CIVICS INSTRUCTION

Using Problem-Solving Steps and Audience Roles to Increase Student Engagement in Elementary Civics Instruction

Paper presented at the annual College and University Faculty Assembly

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Using Problem-Solving Steps and Audience Roles to Increase Student Engagement in Elementary Civics Instruction

Abstract

Leslie Herrenkohl's work in science (1998) has demonstrated that introducing "problem-solving steps" and "audience roles" to an elementary classroom can have a dramatic impact on rates of student engagement as measured through classroom talk. While this research suggests exciting possibilities, we do not know the extent to which the success of the intervention was due to its placement within the discipline of science? Would the adaptation of the steps and audience roles to civics, a discipline more loosely structured than science, produce similar results? What issues and possibilities arise when this participant structure is introduced to real elementary civics classrooms?

To answer these questions two cases were examined and compared. Problem-solving steps and audience roles appropriate to civics were introduced into two fourth-grade suburban classrooms. Classroom talk before, during, and after the introduction of the steps and audience roles was gathered during twelve class sessions using audio and video recorders. Interviews of the teachers and selected students were conducted. The data were analyzed qualitatively to ascertain the degree to which teachers and students engaged in substantive talk (particularly during small group reporting episodes) and the impact of civics problems on the talk of students.

Students in both classrooms demonstrated high levels of substantive engagement (defined here as students seeking understanding, challenging one another, and seeking agreement). However, engaging with civics problems was difficult for students. Of particular concern was the lack of definition of civics problems and the inability within civics to confirm the veracity of proposed solutions.

This paper reports the results of a study designed to increase substantive student engagement in elementary civics classrooms through the introduction of problem-solving steps and audience roles. Substantive student engagement is used here to mean student engagement that is beyond "time on task" and compliance with classroom rules and expectations. Rather, substantive engagement, as it is conceptualized here, is borrowed from the work of Martin Nystrand and Adam Gamoran (1991) and is found in classroom interactions where students use what others say as "thinking devices" (Lotman, 1988), where students "work in terms of each other (Nystrand & Gamoran, 1991, p. 266). For the purposes of this study, substantive engagement is when students seek understanding, challenge comments or ideas, or seek agreement during small-group reporting periods.

Student engagement is of concern for three reasons. First, student engagement "leads to academic achievement and contributes to students' social and cognitive development (Finn, 1993; Newmann, 1992). Students who are engaged with school are more likely to learn, to find the experience rewarding, to graduate, and to pursue higher education" (Marks, 2000, p. 154). Second, student engagement in classroom talk is a "mode of classroom interaction" (Parker & Zumeta, 1999) that is explicitly connected to preparation for popular sovereignty—a key concern for civic educators (Barber, 1989; Gutmann, 1987/1999; Hess, 2000; Larson & Parker, 1996; Parker, 1996a; Parker, 1996b; Parker, 1997; Parker & Zumeta, 1999). Third, while there are many fine teachers who are masters of supporting young children in talking together about important issues (see Lindquist, 1995; Beck, 1998), in the aggregate, the picture is grim. Student rarely engage in substantive talk in classrooms (Goodlad, 1984;

Marks, 2000; Nystrand & Gamoran, 1997; Sirotnik, 1998), despite intense and thoughtful efforts to change the situation (see Alvermann & Hayes, 1989).

This study seeks to apply sociocultural understandings about the nature of changing classroom discourse (Wertsch, 1998) and a successful application of these understandings in the elementary science classroom (Herrenkohl, Palinscar, DeWater, & Kawasaki, 1999; Herrenkohl & Guerra, 1998), to the thorny and pernicious problem of changing the nature of student engagement in classroom talk in elementary civics classrooms.

The theories of James Wertsch (Wertsch, 1998) provide the foundation for this study. Wertsch contends that our difficulty in understanding social settings, such as the classroom, comes from our inability to view the setting in its complexity. Wertsch asserts that understanding human activity is productively found in understanding the tension between the individuals ("agents") and the resources ("cultural tools") provided by their culture.

This intimate relationship between agents and tools means that when either the agent or the tool is changed, the action changes. This proposition has implications for action in schools. Teachers and students use cultural tools in their classrooms. Applied specifically to classroom discourse, teachers and students use participant structures (Lampert, 1990; Philips, 1983/1993) in classrooms. These structures include whole class instruction with the teacher controlling the turns of speech, and small group interactions where students take control of their own speech. The type of structure shapes what participants can and cannot do—topics can be discussed in small groups that would not be allowed in whole class sessions (Philips, 1983/1993). However, these structures do not pre-determine the outcome. Different teachers and students use the

structures in their own ways and for their own ends (Kachur & Prendergast, 1997). Agents are always working.

Before beginning the application of Wertsch's theory to this research, one more point needs to be articulated regarding agents and tools. Wertsch contends that the most effective way to change action is the latter: changing tools agents use. He points to how the design of airplanes has changed drastically, not because designers are more skilled, or have gotten younger, but because a new tool (the computer) was introduced.

Herrenkohl and Guerra (1998) used Wertsch's notion of cultural tools to introduce scientific ways of thinking to 4th grade students in an attempt to engage students substantively in the discourse of the classroom. Based in beliefs about the structure of science and what scientists do, small groups were given experimental tasks and were required to use scientific tools to: (1) predict and theorize about what would happen; (2) summarize the results of the experiment; and (3) relate the results of their experiments to their theories and predictions. Using a design experiment, Herrenkohl and Guerra taught two teams of students to use these tools. One team, in addition to being taught the steps to use in the small groups, was also provided with supports or scaffolds to encourage their use of the tools when the small groups reported to the larger team. Herrenkohl and Guerra called these supports "audience roles" and created them to mirror the scientific way of thinking the small groups were using. Audience members were assigned the right and responsibility to understand what the small group had predicted and theorized, what had happened in the small group's experiments, and how the results confirmed or disproved the small group's prediction or theory. Herrenkohl and Guerra found a substantial difference

between the two groups in their substantive rates of engagement. To return to Wertsch's language, it appears that changing action (patterns of discourse) by changing the cultural tool works best if the agents involved are supported in their use of the tools. Herrenkohl and Guerra's audience roles required students to use the tools, thus giving them permission to engage in questioning behavior normally reserved for the teacher.

This research rests heavily on Herrenkohl's attempts (Herrenkohl et al., 1999; Herrenkohl & Guerra, 1998) to understand the impact of the introduction of cultural tools into elementary science classrooms. This study extends her efforts by changing the type of cultural tools introduced—civic tools rather than scientific ones—and by examining how the introduction of civic tools in combination with audience roles impacts student engagement in two real classrooms.

Tools of civics are not based in experimentation but rather in deliberation (Dillon, 1994; Gutmann & Thompson, 1996; Parker, 1997; Parker & Zumeta, 1999). While the tools of deliberation are many, Walter Parker and William Zumeta (1999) reduce the 8 steps of professional policy analysis to 3 steps that citizens should know. In keeping with the framework of this study, I have recast their steps as the following tools: (1) problem finding—identifying and understanding public problems; (2) solution generation and analysis—developing and analyzing policy options together; and (3) decision making—making policy decisions together (see Parker & Zumeta, 1999, p. 34).

This study seeks to provide elementary school students with the civics tools listed above in order to understand how the introduction of such tools influences student engagement in real classrooms.

Method

In order to investigate this question, I carried out a qualitative study focusing on two cases—two 4th grade teachers and their students in two suburban Seattle schools, implementing problem-solving steps and audience roles in their civics classroom to foster deliberation. Teachers were asked to engage their students in deliberation as a part of their government unit. Excerpts from the elementary version of the We The People curriculum (Center for Civic Education, 1988) were used as the basis of the unit. We The People was selected because it is an established curriculum that has been demonstrated to successfully communicate basic knowledge of the American governmental system (Educational Testing Service, 1991). In addition, We The People provides a variety of thought-provoking questions that can be adapted for student deliberation.

To facilitate student deliberation in both small and large groups, the students were taught problem-solving steps and audience roles that mirrored the problem-solving steps. The problem-solving steps and audience roles were based conceptually on the "Steps Plus Roles" process developed by Herrenkohl and Guerra (1998) in their study of elementary science classrooms and adapted for use with ill-structured civics problems. Steps Plus Roles teaches students in small groups to follow steps to solving a problem designed by the teacher. Then, during small group reports, students in the audience take on "roles" of questioning the reporters. These roles give audience members the right and responsibility to check to see how closely the small group followed the process and to challenge the small group's thinking when necessary. The intent is to provide a scaffold (Wood & Middleton, 1975) in the social setting to support

students as they learn to use what small group reporters say as thinking devices in the large group—thus increasing substantive student engagement.

Participant Selection

The study was conducted in two schools in a district located between Seattle and Tacoma. The district reports that 34% of students are ethnic minorities and 36% live at or below the poverty line) The schools that I call Olympus and Elk Lake have demographics that are similar. Both schools report that their "White" student population is around 70%. Approximately 10% of their students are Asian-American. Approximately 20% of the minority population in each school is "non-immigrant" minority students (i.e. African-American, Hispanic, Native American) as defined by Ogbu (1993). With 42.4% of students living at or below the poverty line, Olympus qualifies to receive federal Title One funds. Elk Lake's 37.1% of students in poverty does not qualify for such funds. The test scores of the buildings are similar depending upon which type of test is used and the group of students assessed.

The teachers selected their own pseudonyms for this study. Mrs. Sarah Anderson (Teacher 'A') and Ms. Heidi Brazaitys (Teacher 'B') both Caucasian, taught classes of fourth grade students[1]. Mrs. Anderson was a teacher with 3 years experience and a B.A. and her teacher's certificate from a local four-year private university. Ms. Brazaitys had 7 years experience and held a B.S. in Elementary Education and a M.A. in Special Education.

[1] Note that Teacher 'A' is at Elk Lake, a school that comes alphabetically before Olympus (the school of Teacher 'B').

The Intervention

Teachers were asked to engage their students in deliberation as part of their government unit. Materials provided with the We The People curriculum were used as students learned about the three branches of government and their functions. The discussion problems presented in We The People were adapted as necessary to foster small and large group deliberation.

The design I initially presented to the teachers closely followed the lead of Leslie Herrenkohl's work in science classrooms (Herrenkohl et al., 1999; Herrenkohl & Guerra, 1998) and was based on my experiences during the pilot phase of this process. The government unit involved 12 class sessions of at least ninety minutes. This time frame was selected to align with past research on the amount of time required for students to become proficient with thinking tools (Herrenkohl & Guerra, 1998; Palincsar & Brown, 1984).

Supporting teachers and students as they learned to adapt materials and implement this intervention was not a small task. There was no attempt to require that both teachers follow the identical protocol. Rather, I worked with the teachers to help them adapt the materials. While the approach taken did not perfectly replicate the ways in which teachers are provided with tools for use in their classrooms, it honored the agency of the teacher and allowed teachers to adapt the tools with considerable freedom.

Five general topic areas were covered using We The People. Students were first introduced to the *three-part structure* of the American governmental system. Second, each branch of government was examined in greater depth moving from the *legislative branch* to the *executive branch* to the *judicial branch*. Finally the students participated in *decision-making activities (deliberation)* where

they were asked to decide as a group how to spend money I donated to their classroom, and to discuss a controversial issue with a congressional staff member.

Instruction

Instruction was provided in both content adapted from We The People and in the tools of deliberation. Students were provided with instruction in three basic areas relative to the study's intervention. First, students were provided with expectations and "procedural roles"—task assignments designed to foster the smooth functioning of the small groups. Second, students were taught the civics problem-solving steps. Third, students were taught the civics audience roles.

Based on their previous experiences with these classes, the teachers were skeptical that placing their students in small groups would be successful. To facilitate improved group work the teachers did three things prior to the beginning of the study. First, the teachers used Cohen's (1994) "Broken Circles" activity, a cooperative learning exercise, with their students. Second, the teachers carefully assigned students to groups they believed had a good chance of functioning well together. Third, the teachers taught, modeled, and practiced procedural roles for student use in small groups.

The civics problem-solving steps were initially modeled by the teachers during the first whole-class session using a "limited government" problem. On the second and third days, a second limited government problem was posed to students, the problem-solving steps were taught explicitly, and students practiced these steps in small groups with the teachers moving from group to

group and providing assistance. During third day's small group reports the teachers modeled the audience roles as they questioned the reporters.

On day four, the teachers involved students in creating charts with questions to assist students in getting needed information from small group reporters. These charts were posted each day and served as a reference for students as they took on the audience roles. Teachers revisited the charts over the course of the study to add questions and to discuss which questions seemed to be working and which were not. The audience roles rotated daily and initially students were asked to stay within their role when questioning. The problem-solving steps and audience roles were reviewed and practiced explicitly through the 7th day of the intervention.

Each class period included an instructional period when teachers worked with students to read and discuss the We The People material. After this lesson students were presented with a situation adapted from questions included in We The People that they addressed in small groups. Reporters from the small groups shared the groups' deliberations with the whole class. Members of the "audience" questioned the reporters, seeking to understand and challenge their processes and conclusions.

Curricular Adaptations

The problems for small and large group deliberation were adapted from questions included in We The People. Recall that deliberation means a group is making a decision about what they should do (Dillon, 1994). As such, the questions addressed by the classes were rarely real deliberation. Rather, students were asked to imagine that they were actual decision makers in a

setting. The intent was to provide students with a greater understanding of the American governmental system while giving them practice at deliberation.

Aligning Steps and Roles

Audience roles were developed to correspond with the problem-solving steps. Audience roles were assigned for large group use when small groups reported the results of their deliberations to the class. Since step 1 of the problem-solving process required students to find the problem, audience role 'A' required students to strive to understand the problem identified by the small group. Likewise, step 2 required the small groups to examine a wide variety of possible solutions to the problem, so audience role 'B' required students to understand what the choices the group had considered and the advantages and disadvantages of each. Finally, since step 3 required small groups to make a decision that they felt would solve the problem, audience role 'C' required students to understand the proposed solution and to consider how it would or would not solve the problem. The problem-solving steps were used by students as they addressed a problem in groups of 4 to 5 students. Two "reporters" from each small group reported to the whole class the results of their deliberation. People in the audience assumed audience roles, questioning small group reporters about the deliberations of their group.

Data Collection

Three sources of data were used to assess the impact of problem-solving steps and roles in these 4th grade civics classrooms: video and audio tapes of classroom activity and presentation, interviews of students and teachers, and my observations and field notes.

I audio taped all classroom interactions during the time I was present in the classroom. I videotaped teacher and student presentations to the class. I transcribed teacher and student presentations for all class sessions. I listened to tapes of small group work and I took notes on the proceedings. Especially interesting sections of small group work were transcribed verbatim when possible.

Teachers were formally interviewed at the beginning of the study and at the conclusion of the study. During the study I regularly interacted with the teachers. The final interview of each teacher was audio taped and transcribed.

Representative students were selected by each teacher to be interviewed individually and in groups four times during the study. All interviews were audio taped and transcribed.

Data Analysis

Data were initially coded to be examined quantitatively. Coding "bits" were established by following Herrenkohl's lead (1998) and adapting Tharp and Gallimore's episode criteria (1988). I created initiation episodes involving at least two participants, each of whom took at least one speech turn apiece. "Who" created one possible boundary between episodes—whenever the speakers changed, I noted a new episode. However, within exchanges between two speakers, I also delineated episodes. The criteria were based on the content of the speech. If a speaker changed the topic, I noted a new episode. In addition, if the speaker asked a new question about the same topic, I considered it a new episode. When speakers rephrased or explained questions I considered the speech as part of the same initiation episode.

Five coding categories were developed using Huberman and Miles' (1994; Miles & Huberman, 1994) iterative model of data reduction, data display, and drawing and verifying conclusions. They were student statements or questions aimed at: (1)*seeking understanding* (SU) (e.g. paraphrasing, questioning the speaker's meaning, exploring the speaker's reasoning); (2) *challenging* (C) the speaker (e.g. contradicting the speaker's facts, asserting that procedures had not been followed, casting doubt on the speaker's reasoning, highlighting inconsistency); (3) *seeking agreement* (SA) (e.g. suggesting alternative solutions, acknowledging points, building on other's ideas); (4) *other* (O) goals (e.g. seeking a specific, pre-determined answers, seeking permission to do something); and (5) *understanding procedures* (UP) (e.g. asking about the procedures a group used).

Student initiations coded as seeking understanding, challenging, or seeking agreement, were considered examples ot substantive student engagement.

Inter-rater Agreement

After the coding scheme had been used to code the full set of data, the coding categories were checked by having a second rater code data from four reporting sessions—applying the coding criteria to material from both classrooms during group reports regarding the legislative branch. Initial inter-rater agreement reached 84%. The differences between the raters were then resolved through discussion.

Results

With the introduction of problem-solving steps and audience roles to the civics classrooms, students took over the classroom talk at high levels. Yet civics decision making is messy. Of particular concern is the lack of definition or

structure of civics problems and the inability to confirm the veracity of possible solutions.

Audience Roles, Engagement, and Civics

Student engagement increased over the course of this study. Predictably, the initial instructional periods demonstrated high percentages of teacher talk and corresponding low percentages of student-initiated talk. Reporting periods (times when small-group representatives reported to the large group) late in the study demonstrated an opposite character—students engaged at high rates while teachers took on less of a role. Figure 1 demonstrates this fact. It is hardly surprising that during the initial instructional periods the teachers dominated by initiating 74 to 91 percent of the talk. However, the difference between the instructional settings and the reporting settings is striking. In the final three reporting sessions the pattern was reversed—students initiated 66 to 91 percent of the talk with teachers taking a corresponding lower percentage.

[Insert Figure 1 about here]

Comparison of the substantial levels of student talk in these classrooms with the dearth of student talk found in large scale studies such as those earlier (see Nystrand & Gamoran, 1997; Sirotnik, 1998) indicates that these students were far more active in these classrooms than might have been expected following just 12 days of instruction. The uncharacteristically high degree of student initiations in both settings suggests that problem-solving steps and audience roles in civics may function similarly to how they function in science (Herrenkohl & Guerra, 1998).

Figure 2 illustrates how the student initiations occurred across coding categories. Averaging the number of initiation episodes per session and by

student shows that students participated in all forms of deliberative behavior. This is illustrated by the mean number of initiations that took place across coding categories. Student challenges were the most frequent form of engagement followed by attempts to negotiate an understanding. Questions and comments that addressed issues of procedure were common. Students were less likely to offer agreement-seeking options and they infrequently engaged in asking teacher-type questions (questions with a pre-determined "right" answer) of one another.

[Insert Figure 2 about here]

It is important to note that the initiations reported here are not necessarily evidence of substantive student engagement, they simply indicate student activity in the talk of the classroom. Further analysis indicates that student substantive engagement was high as well. Taking out student initiations that were coded as seeking procedural information and student initiations that were coded as "other" (e. g. asking rhetorical questions or teacher-type test questions), the number of student initiations remains high. Using data from Reporting Session 5 through the end of the study, students averaged 70 student initiations per session (Elk Lake average 71; Olympus average 69).

The findings presented above appear to support the assertion that problem-solving steps and audience roles are a means of increasing students' participation and engagement in civics instruction. But the story does not end there. Both teachers and students in the participating classrooms struggled mightily with giving structure to the ill-structured civics problems, and with establishing sources of authority when the process vested truth in the group itself. I examine first the difficulties experienced in this study with problem

finding before moving to issues generated by problems whose solutions cannot be tested.

Problem Finding

Problem finding with ill-structured, public problems involves two tasks. In the first task the group explores their view of the situation and how the situation differs from the ideal. What is the ideal state the group seeks? What is the group's goal? "What is valuable to us when we think about a particular problem?" (Mathews, 1996 p. 34). In the second task, the group examines why this problem exists. The group moves "toward the development of a causal theory" (Parker & Zumeta, 1999 p. 23). Getting to the cause of the problem has significant implications for the solution to the problem—what a group believes about the problem affects how they talk about it and how they choose to solve it (Voss & Post, 1988).

This was the theory that drove the use of problem finding as a pillar of this study. What this study illustrates is the tremendous complexity and abstraction of such an enterprise. The teachers, students, and I struggled regularly with finding the problem and while there were times when the problem was negotiated with some success, the findings reported below illustrate significant difficulties. In the section that follows I present two ways in which problem finding seemed a productive part of this process. Immediately following each of these findings I present evidence that complicates any endorsement of using problem finding with elementary students.

Slowing Down the Process—A Little

It is a tendency of decision-making groups to assume a generalized understanding of the problem the group faces and move immediately toward

answers. Groups often "rush to pet solutions" (Roby, 1985). The inclusion of problem finding as a step to follow in small group work and as an audience role appeared to slow down the deliberative process for these 4th grade students—perhaps making it more deliberate. Students actually tried to find the problem, and in doing so they often came away with greater clarity. In the following example, a small group of students take the perspective of tobacco factory workers and considered what their problem might be.

Franklin: Okay, what's our problem?

Lauren: We can make any problem we want. . . . The problem is people will stop buying tobacco.

Tyler: That's a problem?

Lauren: People will stop buying tobacco.

Tyler: We won't have any money no more. It's like, you can't sell tobacco, you're fired (EL7SG1).

In this example Lauren introduces an idea that the rest of the group had not considered. Tyler with his 10-year-old perspective on smoking is initially surprised by Lauren's suggestion. However, he quickly comes to see the logic of her proposal. Without the explicit requirement that students talk about the nature of the problem, such an exchange might never have occurred.

The problem statements themselves add credibility to this claim. An analysis of small-group problem statements reveals that the problem statements of the different groups were often similar but rarely identical—the small groups seemed to talk with one another about the problem. However, students rarely explored the problem in-depth. The problem statement suggested above by Lauren was readily adopted by the group and presented to the class:

> Lauren: We're the workers at the tobacco thing. The problem is that people will stop buying tobacco and we will lose our jobs (EL7/15).

The problem statement changed little from Lauren's initial proposal to the group. This experience appears typical. Once a likely problem was suggested students tended to move on to the next step in a manner that was more routine than critical. When questioned by audience members about how the small group came up with their problem Lauren accurately reported:

> Lauren: We thought about it for a minute or two and them um, I just came up with one real fast (EL7/15).

Lauren's group, represents the way most groups approached problem finding. It slowed them down and provided statements that might not have occurred otherwise. Yet while the small group reported engaging in everything from brainstorming to thinking to listening to the teacher, students rarely engaged in much give-and-take over the problem with an eye to greater understanding. They generally accepted the first suggestion that came their way or talked until someone voiced an idea that sounded reasonable and then adopted it as their problem statement.

The group discussed above was fortunate that the first suggestion given was an appropriate one. This was not always the case. However, even with this generally appropriate problem statement there is much missing. Consider how the group's discussion might have changed if they had contemplated a problem statement that acknowledged that the livelihood of these hypothetical farmers is based on a product that eventually kills those who use it. What creative solutions might they have generated?

Promoting Engagement—Sometimes

During reports to the entire class, audience members regularly sought clarification of the small group problems. Students at Elk Lake tended to ask what the problem statement meant. Nate's question is typical.

Nate: What is that? What do you mean when you say you do not want/ what are you saying there (EL 5/3)?

Students at Olympus, on the other hand, tended to look for the rationale behind the problem. Like Brian, they seemed more likely to ask,

Brian: Why did you pick that problem (O6/19)?

While these exchanges were encouraging and hint at the larger group's willingness to listen carefully and think about what the small group was saying, they were relatively infrequent. Questioning reporters about the problem they presented was more often procedural in nature, especially at Elk Lake. The following exchange was not unusual.

Felicity: Nate.

Nate: Did you understand the problem?

Felicity: Yes, Sadie?

Sadie: I forgot.

Felicity: Nate.

Nate: How did your group decide on what the problem was?

Felicity: Well, we um—

Derek: —Brainstormed. . . . Carl.

Carl: Did you have more than one problem?

Felicity: No, Sadie?

Sadie: Did you/ did you agree on what the problem was (EL8/18)?

There appeared to be little desire to either know or report a complete answer. Rather, a rapid fire questioning ensued, eliciting short answers from the reporters. But things at Elk Lake occasionally got worse as reporters answered questions before others were done asking them.

Celeste: Did you guys understand—

Felicity: —Yes.

Celeste: the problem?

Felicity: Nate (EL 7/4)?

While Mrs. Anderson discouraged the practice of answering questions that had not been completed and its corollary practice of asking a question and then raising a hand before the question was answered, the practices died slowly.

Thoughtful challenges to problem statements rarely occurred. It seemed important to have a problem and to know how you got it, but the substance of the problem was rarely questioned, unless it was somehow confusing. When challenges did occur they were aimed at establishing that the small group had missed a point, not that their problem differed from the audience member's understanding of the problem space. This is an important distinction because the small group reporting was intended to be a way to foster *whole class* understanding of the problem by bringing the deliberation of the small groups together in a public forum. The students managed the form of deliberation without its substance, and no sense that the problem belonged to the class was created in discussions of the problem. Toward the end of the study, Ms Brazaitys at Olympus dropped the requirement that students present each step and take questions before proceeding. After this change was made, students at Olympus asked questions about the problem only if the problem was confusing or missing.

In sum, the ill-structured nature of civics problems means that problems are hard to define. Talking about the problem was designed to aid the group in defining the problem space as a means of generating solutions that address the real concern. Requiring students to formally consider the problem seemed to slow a "rush to solution" and it resulted in students engaging with one another as evidenced by attempts at clarification and a few challenges. Yet students struggled with the abstract and complex task of problem finding. Rather than working through the struggle, they tended to rush to solve the "find the problem" problem, so they could get on with the other tasks. Talk initiations in large group settings tended to focus on the procedure with the purpose of the activity apparently missing.

Agreeing on Solutions

Ill-structured problems also pose a challenge when students try to solve them. As stated above, it is the nature of deliberative problem solving that solutions are judged acceptable if the group agrees to them. There are three ways that this reality affected students as they grappled with civics problems. First, students had to confront the complexity of both philosophical and mundane concerns—they were forced to think. Second, the untestable nature of the decisions left the door open for subtle manipulation of all knowledge. Third, the reliance on argument and logic threatened to keep the students focused on their own ideas, leaving centuries of enlightened thinking unexamined. Space considerations preclude a full examination of the first two claims made here. What follows is an examination of an extended exchange designed to illustrate the third claim that a reliance on argument and logic may have given undo weight to students' opinions. I have selected this example because embedded

within it are illustrations of the ways in which students were forced to think and how they manipulated of knowledge.

Relying on Logic

This example includes a discussion students initiated about who should pay for a lawyer when an individual is charged with a crime. It is based upon the 1963 Supreme Court case, Gideon vs. Wainwright in which Gideon petitions the court, arguing that he has a right to have a state-funded lawyer. This fundamental issue here is articulated by Carl (the main player in the following exchange). Carl explicitly demonstrates an assumption that the accused are guilty. Carl's clear articulation of his beliefs provides a vivid example of a major challenge of deliberation in civics: fostering dissent without undermining core values of American democracy. In what follows I provide an extended description that tracks Carl's and his classmates' consideration of the question of who should pay for a lawyer. At the end of this description I examine how this example illustrates both the power and danger of relying on argument as a source of authority.

The discussion began in the small group. An excellent transcript of this exchange is available because the teacher stopped by the group wearing her lapel microphone. What follows has been abridged for presentation here to provide the gist of the conversation. In the small group Carl forcefully asserts his point.

Carl: What if he murdered someone? Do you think he should have the chance to have a lawyer? Well, I can get a lawyer so I can get out just cause I murdered someone.

?: . . . Well, if he murdered someone, he shouldn't get a lawyer.

Mrs. A: But how are/ how are you going to know if the man actually/ or if the person actually murdered someone?

Carl: What if they proved he murdered someone? I mean, do you think he should deserve a lawyer . . . if he murdered someone? So what's the big deal? He should just go to jail. . . .

Celeste: Let's say Randy, if you're being . . . accused for . . . stabbing someone and you didn't do it, and you get a lawyer . . . not for free. . . and you didn't have the money to pay for it, how would you get a lawyer?

Randy: I couldn't. That's why I think everyone should get one. . .

Carl: What if they knew he did? What if like, someone saw him? What if like I was walking around the neighborhood, like stabbing at a guy. Great. I'll tell em, they would know. Cause I told em. This guy murdered (EL10M6).

In the excerpt above Carl laid out a three-point argument. First, lawyers help people get out of punishment ("I can get a lawyer so I can get out . . ."). Second, people who are guilty should not be protected ("... if he murdered someone. . . he should just go to jail"). Third, Carl inferred a point that he made explicit later—people get accused because they are guilty ("... they would know. Cause I told em. This guy murdered."). The teacher and other students attempted to point out the problems with Carl's claim. Yet Carl was unconvinced. Ultimately Carl's argument was rejected by the small group and the group decided to recommend to the class that everyone should be provided with a lawyer. By

virtue of the rotation schedule, Carl became a begrudging reporter charged with representing this decision to the class.

Carl: . . . If some people are going to say "Did you agree on a problem was?" No, I didn't. Because, they made me do every one. Randy turned everyone against/ on his side/ and they made me leave. Lindsey.

Lindsey: Do you think that other people [who] don't think they're ever gonna go to court would agree with this one because taxes would go up and things like that?. . . So what do you think other people would say?

Carl: You ought-ta ask her (EL10/12).

Carl referred the question to his reporting partner and Lindsey repeated her question and explained her thinking at great length. Eventually, the teacher presented Lindsey's argument to the class.

Mrs. A: What Lindsey's saying is, if everybody has a lawyer for free, even the people that could afford to pay, taxes are going to skyrocket because that is a lot of money. Lawyers are expensive.

Carl: You're gonna have to ask Randy.

Mrs. A: She's saying that the people are probably never going to go to court/ probably never going to get in trouble are going to disagree strongly with this decision because they don't want to pay those taxes . . . (EL10/13).

At Carl's insistence, Randy was invited forward to respond.

Randy: Well I would say now I'm starting to think that pretty much only some people should get a lawyer.

Carl: Then why'd you go on the other side?

Randy: Well, like the people who can't afford a lawyer, . . . even if the taxes were high . . . they would still be able to get a lawyer. And they could have a fair trial.

Lindsey: I am the person who doesn't want to pay (EL10/14).

Randy modified his position based on the argument articulated by Lindsey. Randy's meaning was initially unclear and Carl appeared to believe that Randy had come around to his way of thinking. However, as Randy talked he reiterated his concern that for reasons of fairness, everyone should have a lawyer, even if he was now only willing to fund lawyers for those who could not afford it.

What followed was an articulation of the differences between Randy's and Carl's positions. Randy continued to advocate for providing a lawyer in the interest of insuring a fair trial. Carl disagreed and his logic was persuasive.

Carl: So like one/ all of a sudden one person actually doesn't do it. . . . And then he went to court and he . . . said to everyone . . . everyone would start going like, "I swear I didn't do it!" But without a lawyer, they can't do that (EL10/16).

Here Carl makes explicit his belief that people are accused because they are guilty (". . . all of a sudden one person actually doesn't do it."), while reiterating his belief that the lawyer's role is one of helping the guilty avoid punishment.

Lindsey's taxes argument was restated by Felicity and then Mrs. Anderson brought the reporting session to a close.

First consider what went well in this discussion. There is little question that a variety of perspectives were explored in this extended exchange. These fourth grade students do an impressive job of articulating beliefs that might be found in the adult population. Randy was able to articulate his ideas about fairness even as he moderated his position. Carl and Lindsey argued alternative positions using different logic. Students seemed to be thinking and engaged. In fact, students in this example did everything we hoped they would do.

Yet here is the problem. It is a well-established principle of the American legal system that those accused of a crime are innocent until proven guilty. While the intent of the problem was for students to behave as the Supreme Court had in 1963 and decide what was necessary for the presumption of innocence to be preserved, students questioned the principle itself. Carl with his nimble brain and persuasive logic sought to overturn the presumption of innocence—a foundation of our democratic system. This is perhaps a helpful exercise in coming to understand and value our judicial system. However, the focus of the group, as the final decision makers, was on themselves. They did not appear disposed to consider the thinking of those outside of their group. They never asked to know what the Supreme Court had actually decided nor did the teacher bring it up.

Discussion

These findings demonstrate that problem-solving steps and audience roles are one way of increasing both student talk and substantive student engagement in elementary civics classrooms. With remarkably little training, students in these classrooms adopted a willingness to negotiate understanding through questioning and challenging one another. The power of problem-solving steps

and audience roles does not appear to be limited to well-structured disciplines such as physical science. Teachers can productively use them to assist student engagement even in the loosely structured discipline of civics.

Knowing that audience roles can boost participation and engagement in science and civics adds weight to the argument that this participation structure holds significant potential for changing classroom discourse in any subject area. This study appears to support Herrenkohl's assertion that audience roles combined with problem-solving steps can change the way students talk in classrooms (Herrenkohl & Guerra, 1998). Such a change demonstrated across the divides of two very different disciplines suggests a powerful intervention worthy of continued study.

These findings also demonstrate that problem-solving steps and audience roles were not an unqualified success. Students sometimes talked more without saying a great deal. They manipulated information, missed chances to explore problems in-depth, and they relied on their own limited expertise when the expertise of others might have taught them much. It is important to remember that this study consisted of only 12 civics classes in each classroom. In those 12 lessons students were not only taught academic content, but also were expected to learn and apply the problem-solving steps and audience roles. It could be argued that students were just beginning to master the complex problem-solving steps and audience roles when the study came to a close. The problems encountered may demonstrate the need for extended exposure and practice with this format if the benefits are to be fully realized.

Yet from the difficulties students encountered, other lessons might be drawn. Misuse of argument and facts may be less a function of the loosely

structured nature of civics or the short amount of time, than of the problems students were given. We the People was selected because the content goals of the school could be combined with the goal of engaging students in democratic deliberation. Such an emphasis was important when appealing to busy teachers and administrators to participate in such a project. However, the problems articulated within the curriculum are distant from students' experience and may in some ways encourage the difficulties experienced here. A more ideal situation might be the deliberation of problems as they naturally arise in the setting. While such a design does not lend itself well to a research project, it may be that students would take more care over understanding the problem, generating and evaluating solutions, and making decisions--some of the missteps may have been avoided. An emphasis upon problems found within the curriculum allowed for consistent practice on the steps and roles. But, it may have done so at the cost of relevance to student concerns. Future research in how the type of problem influences students' use of problem-solving steps and roles would help address questions about ideal deliberative experiences for young children.

There is one additional area that appears ripe for further inquiry—the impact of audience roles on cooperative learning groups. I did not anticipate a possible relationship and as a result I did not gather data that might examine it. Yet, the teachers and I observed an abundance of anecdotal evidence that suggests a link exists. As the study continued, student work in small groups seemed to be transformed. Unfocused and trivial in the beginning, small group work seemed to be focused and intense by the end of the study. Students and teachers commented on this in interviews and my field notes consistently mention it. The teachers both theorized that the accountability of knowing that

classmates would question reporters was the cause of the improvement. However, the poor quality of many of the small group tapes combined with the absence of a systematic way to examine possible connections makes this only an intriguing area ripe for further investigation. We know that cooperative learning groups have tremendous academic potential that is often not realized (e.g. Nystrand & Gamoran, 1997). Audience roles may provide a way to more consistently tap that potential. Understanding the relationship between audience roles and small group work could greatly benefit both practitioners and theorists.

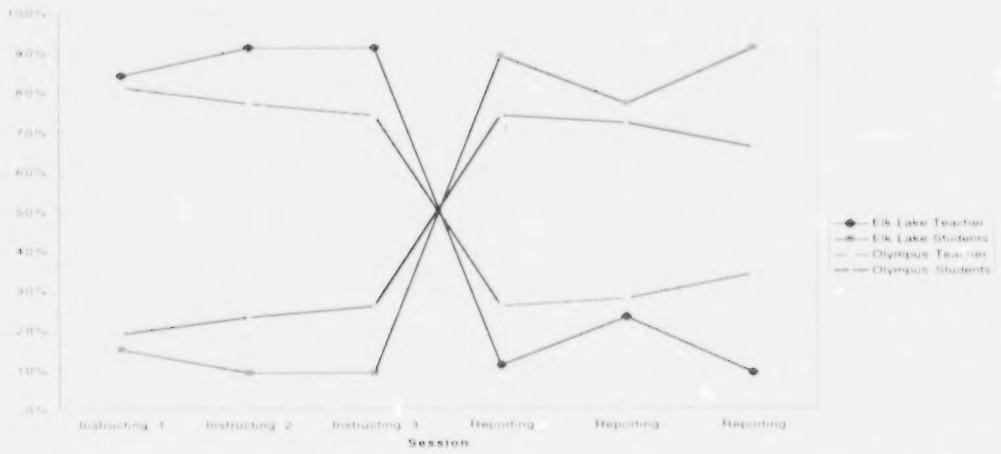

Figure 1: Percentage of Initiations

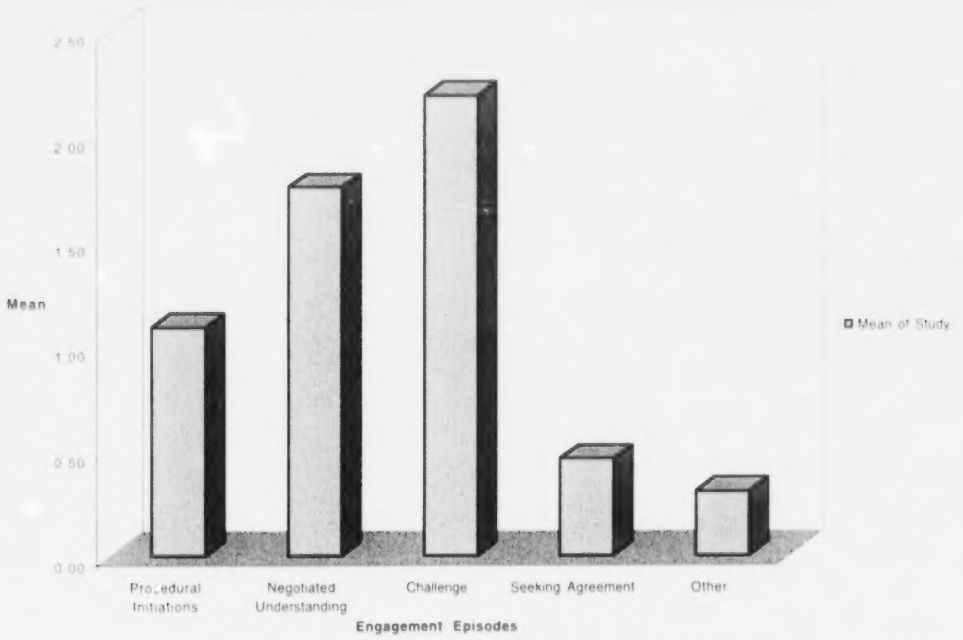

Figure 2: Mean Number of Engagement Episodes Initiated by Student

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